

plied the entire small intestine and transverse colon, had produced gangrene beyond that portion which had been resected.

DR. GREENSFELDER, in answering the question of Dr. Steele, stated that there was no intestinal fistula at present.

In regard to the remarks of Dr. McArthur, in the patient who had thrombosis of the mesenteric artery there was complete gangrene extending not only to the small bowel, but to part of the colon, death occurring undoubtedly from this condition.

Regarding the statistics of mesenteric thrombosis, he stated that 217 cases had been recently reported by Jackson, Porter, and Quinby in *Journal of the American Medical Association*, with a mortality of 94 per cent. in non-operated cases, and a mortality of 92 per cent. in the cases operated upon.

#### PERINEAL PROSTATECTOMY.

DR. JACOB FRANK reported the case of a man, aged seventy years, who consulted him at his office, May 15, 1904, complaining of having been troubled with frequent and painful micturition for nine months, passing very little urine at the time; and after having had to resort to the use of a catheter several times at intervals during this period, had been compelled to lead daily catheter life for the past five months, suffering agonizing pains, insomnia, anorexia, unbearable pain in bladder, loss in weight, a great deal of residual urine,—quantity in twenty-four hours, fifty-eight ounces, specific gravity, 1023. Albumen present; no sugar; abundance of pus-cells; also some squamous cells; reaction acid; no blood; urea, 2.1 per cent. in twenty-four hour specimen.

Patient was sent to the German Hospital, May 29, 1904. He was put to bed; kept on a strict liquid diet; urotropin, five grains, every four hours; lithia water in plenty; boric acid irrigation of bladder daily at a temperature of 110° F., and the daily use of the prostatic catheter, as the ordinary soft rubber one could not be introduced; normal salt solution twice daily per rectum, as the patient was emaciated and required careful nursing.

The prostate gland could easily be palpated *via* the abdomen; the lateral lobes were greatly enlarged and very tender. The operation was performed June 2, 1904, four days after admission to the hospital, under chloroform. The patient was put in exag-



FIG. 2.—Prostatic fragments removed from the perineal route.

gerated lithotomy position; a grooved sound, to be used as a guide for a urethrotomy, was introduced into the urethra; an inverted U-shaped incision was made, the apex of which was taken just over the posterior part of the bulb, and the two arms, each about five centimetres long, midway between the anus and ischial tuberosities. After exposing the superficial muscles by blunt dissection, the central tendon was caught by a clamp near the bulb and divided; this freed the sphincter and levator ani from their anterior attachment, and exposed the rectum drawn forward by the recto-urethralis muscle. This muscle was then divided and the membranous urethra brought into view. This latter step not only exposed the membranous urethra, but prevented injuring the rectum, as shown by Proust. After exposing the membranous urethra, the muscles were retracted and the apex of the prostate was brought into view. The membranous urethra was then opened on the previously introduced grooved sound, and the edges retracted with transfixed silk retractors. A 30 French sound was then introduced through the incision into the prostatic urethra and bladder, and the sphincters dilated with a to-and-fro motion of the sound. The prostatic tractor, closed, was then carried into the bladder, while the edges of the urethral wound were held open by the silk sutures. As soon as the beak was free in the bladder, the thumb-screw, which fixes the blades in position, was loosened, the blades rotated by means of the external blades, and fixed by tightening the thumb-screw. The instrument was then handed over to an assistant, who made enough traction on the instrument to bring the gland into the field. Lateral retractors were now placed so that, together with posterior retractors and the traction produced by the tractor, the entire posterior surface of the gland was exposed. The capsule was now incised on each side of the median line for almost the entire length of the posterior surface of the prostate, the two lines being convergent. The bridge of tissue, as claimed by Young, contains the ejaculatory ducts, and hence the patient's potency was not impaired.

By means of blunt dissection, and with the aid of Young's forceps, the right and median prostatic lobes were enucleated piecemeal. The left lobe was enucleated *in toto*, measuring five by eight centimetres. (Fig. 2.)

The tractors were then withdrawn and a double drainage

tube introduced into the bladder through the opening in the membranous urethra, the inlet tube being about one-third the size of the outlet tube. This tube was fastened with a suture to the upper angle of the wound. The lateral cavities left by the enucleated prostatic lobes were packed with plain gauze, and the drainage tube connected with a siphonage arrangement, and continuous irrigation with normal salt solution,  $110^{\circ}$  to  $120^{\circ}$  F., thus kept up, the flow being regulated by means of a screw clamp in the inlet tube. The irrigation was commenced on the table to prevent blood-clots forming within the bladder.

On the second day after the operation the patient developed an orchitis on the left side, very likely due to extreme force used by the assistant, which was successfully treated with ice-bags and elevation of the scrotum. The rectal temperature for the first week ranged between  $100^{\circ}$  and  $103^{\circ}$  F.; pulse between 78 and 98. The temperature was due very likely to the orchitis, and also to the temperature of the irrigation fluid flowing so near the rectum. No shock; pain for the first two days relieved with one-quarter grain of morphia hypodermically. Two hypodermic injections in all were used.

On the second day the gauze packing was loosened, and some of it withdrawn every day until the sixth day, when all of the original packing was removed, and the superficial wound kept open thereafter with a small gauze pack.

The patient was allowed to sit up in bed with a back-rest on the fourth day. At the end of the week the continuous irrigation was stopped, and the drainage tube withdrawn. On the ninth day a 28 French sound was introduced through the urethra into the bladder, when a soft rubber catheter was carried into the bladder through the meatus, fastened, and the bladder irrigated twice daily with boric solution through this catheter. Five days later the catheter was withdrawn, no urine coming through meatus, as the perineal opening was yet too large. On the nineteenth day the patient passed some urine through meatus, but most through perineal opening. From this time on patient passed some urine, more every day, through the natural channel, and at the end of the fourth week most of the urine passed through the natural opening at intervals of every two hours.

With a 30 or 31 French sound his urethra was sounded every other day, and irrigated once a day after the second week.

In five weeks after operation, patient left the hospital with a very minute perineal fistula, which was dressed daily. At the end of the sixth week all was healed, patient passing urine every three to four hours, and quite clear. At the time of report the bladder did not contain any residual urine. He enjoys good health, eats and sleeps well, and has gained considerably in weight.

The man was impotent before the operation, and had remained so since.

DR. M. L. HARRIS stated that ever since Young proposed this technique to preserve the ejaculatory ducts he thought much had been made of very little. These operations were nearly always done on old people, who, if they were not impotent, had passed the procreative age, or even the age when sexual intercourse was often indulged in, and so it never appeared to him to be a point of any great importance. Nor could the ducts always be preserved.

The method of approaching the prostate was not materially different from that employed by most surgeons when using the perineal route; in fact, after reading Young's description, he did not see anything in his method of approaching the prostate which could be claimed as new or original. So far as opening the capsule parallel to the urethra, or transversely to the urethra, was concerned, it was a matter of election or convenience in particular cases. Personally, he had opened the capsule transversely rather than longitudinally, but not across the mid-line. However, if he had found it facilitated the enucleation by making it in a longitudinal direction, he would have done it. His rule had been of late not to pack the capsule after removing the gland, but to suture it. He had brought the walls together by catgut sutures, and by doing this the period of convalescence was shortened.

Another point which he considered of importance was to get these old people up as quickly as possible after the operation. Old people did not bear the bed very well after operations. He therefore removed the perineal drainage very early and got the patient up. He had found the convalescence was much shortened in this way, not only so far as the patient's general health was concerned, but the perineal wound closed more quickly.

DR. E. WYLLYS ANDREWS did not think that Young himself

claimed as his the incision used by Dr. Frank, as credit for it belonged to Zuckerkandl. He agreed with Dr. Frank about the general improvement after prostatectomy. He had seen one or two old men who had had their testes removed, and one or two upon whom he had performed prostatectomy, who afterwards appeared to him to be ten years younger, in that the wrinkles disappeared from their faces, and they grew less sallow and withered or senile looking.

DR. L. L. McARTHUR had had a fæcal fistula after a prostatic extirpation in one instance, and he thought caution might be well taken against the vigorous use of the median posterior retractor, in that it might cause a rectal perforation. He recalled a case in which it was easy to separate the rectum, and feel it fall back perfectly intact, and after the extirpation of the prostate, during which time the posterior retractor was used vigorously, when about to close the wound a small fistula was found riding astride the coccyx which had an unusually sharp anterior curve. The posterior retractor pulling on the coccyx tore a hole through and weakened the anterior rectal wall in that way. It had not gone through the posterior wall, but the anterior wall had been perforated. So caution should be used after the rectum had been demonstrated to be perfectly separated from the prostatic capsule to protect it against the action of the retractor faultily used.

DR. FRANK, in closing the discussion, said he did not claim anything new in the technique he had described; nor did he say that it was Young's method, but rather Young's technique. He had read the literature thoroughly, and he did not recall any one in this country or any other country who had described so nicely and so minutely what was being done. Out of ten surgeons who were doing prostatectomy, he ventured to say that six of them did not know what they were handling until they reached the prostate. They would tear around until they felt a hard mass, and then try to remove it. Personally, he liked to see every piece of tissue he was handling, and he was quite sure Dr. Andrews would not attempt to do one of his herniotomies without seeing every tissue he handled; consequently, he believed that surgeons were justified in doing prostatectomy upon the same principles and with the same technique as they endeavored to carry out in other operations on the human body. He

had seen prostatectomies, and he had done them, where everybody around was amazed at the flow of blood. It was unnecessary to transfuse patients if the technique of Young was followed. With this technique everything was under control of the eye, and one need not be afraid of a secondary hæmorrhage. He called anything surgery that one could see, and when he could detect every fibre and tissue he was working on. He did not call it surgery to take a knife in hand, jab it into the tissues, and then work in the dark, not knowing what he was feeling. No operation had pleased him more than when he did an operation on this case, because he had everything before his eyes clean down to the prostatic urethra.

He did not say anything about getting the patient up, but desired to say now that this patient was sitting up in bed on the second day. In the case of old men it was better to get them up as early as possible. He believed that this was generally accepted by all surgeons, that the earlier old men were gotten up the better it was for them.

#### GALL-BLADDER AND BILIARY-DUCT SURGERY.

DR. D. A. K. STEELE read a paper with the above title, for which see page 201.

DR. A. J. OCHSNER said there was no doubt whatever but what in the vast majority of all patients suffering from gall-stones, cholecystitis, or disease of the ducts, there was a time when the condition could be safely and permanently relieved by an operation, and that the serious conditions which the essayist had emphasized were the result of late conditions. A cholecystectomy would have to be made very seldom if an operation were done early. A choledochotomy would have to be performed probably never in case an operation were performed at the best possible time. Perforation of the gall-bladder, of course, would not occur. Peritonitis would not occur, so that whenever surgeons had an opportunity of impressing the internist with this fact, he thought they should do it. He thought also it should be done by securing the attendance of the internist at the operation, so that he can really see what was the matter inside of a patient, what the condition in the gall-bladder and in the ducts was at the time of the operation. If the internist saw enough of these